

Amendments to the Specification

Please replace the paragraph beginning on line 8 of page 18 of the specification with the following amended paragraph:

A second embodiment is particularly applicable to devices in which a narrowing of the flow path was not possible or if more accurate counting were desired. (See, e.g., Figure 2). In this design, the illumination is a broader beam, e.g., across the entire channel of a small volume device. A high frame rate camera and lens is positioned over the channel. For coverage of the entire channel, the limit on channel width is dependant on the resolution of the camera and the size of the particle. Software processes the streaming images, counting and/or tracking individual particles from the point of entry into the camera frame until they move out of view. CMOS camera sensors are being produced with very high frame rates and built-in logic for detection and quantitation of moving objects in the field of view. Such cameras are suitable for the present use, but other cameras can also be utilized. Illumination is configured in a darkfield arrangement similar to the previous embodiment. With suitably sized view fields, the detection is not limited to a single channel, but can cover a larger portion of a device, even including an entire small volume device. The small volume device of Figure 2 may be any small volume device, including an array chip, plate or slide.

Please replace the paragraph beginning on line 14 of page 22 of the specification with the following amended paragraph:

Experimentally, for example, one can determine the surface distribution of a deposited biomolecule on a small volume device, such as a glass slide, polystyrene or other plastic surface, or on membrane substrates such as nitrocellulose, PVDF or nylon, for example using a wide angle detection system as shown in Fig. 2, by the following steps: Deposit and bind the biomolecule(s) to the surface or substrate, treat the surface or substrate with a blocking agent to prevent non-specific binding of RLS particles, react appropriately derivatized RLS particles with the surface or substrate under conditions that affect specific binding of the RLS particles to the deposited biomolecules, wash away RLS particles that are not specifically bound to the deposited biomolecules, and measure the morphology and surface distribution properties of the deposited biomolecules on the surface or substrate of a small volume device

under appropriate RLS illumination and detection conditions. Membrane substrates in the systems above are generally made transparent by refractive index matching or other methods prior to viewing or quantitating.